

**ABSTRACT**

A system and method of transmitting data frames between a plurality of input ports to a plurality of output ports is described. The input ports segment portions of the received data frames to provide smaller data cells which are individually transmitted to an output port associated with a destination of the segmented data frame. Based upon information provided in the data cells received at the output port, the output port determines the ordinal positions of the received data cells within the segmented data frame and reassembles the data frame which was segmented at the input port. The output port then forwards the reassembled frame toward the associated destination.